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REVISIONS:


FEASIBILITY STUDY FOR FREDERICK  
CO. BOARD OF EDUCATION

**SANNER FARM** RIGHT MADE

ACCORDING TO A DEED RECORDED IN  
LIBER 7090 AT FOLIO 276

SITUATED ON POOLE JONES ROAD  
CITY OF FREDERICK  
FREDERICK ELECTION DISTRICT No.2  
FREDERICK COUNTY, MARYLAND

SCALE: 1"=60'
DRAWN BY: LNZ
CHECKED BY: CM
DATE: AUG. 2013
SHEET: 1 OF: 1
PROJECT: 6752
C-1

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**Sanner Farm Feasibility Study**

September 2013

**INTRODUCTION**

Harris, Smariga and Associates was contracted by the Frederick County Board of Education to evaluate the Sanner Property located on Walter Martz and Poole Jones Roads as an elementary school site or an elementary/middle school campus. The property can be found on Frederick County's Tax Map 57 Parcel 18. The property is owned by The City of Frederick and zoned R-4, Low Density Residential.

Of the total approximate 61 acres owned by the City, two parcels created by the proposed right of way for Christopher's Crossing, an urban arterial were examined. The first site, north of proposed Christopher's Crossing, has 19 buildable acres and the second site, the southern parcel has 11 buildable acres according to City of Frederick mapping information. The nineteen acre parcel is immediately adjacent to Tuscarora Creek subdivision and the 16.5 acre outlot the Tuscarora Creek developer set aside for a school site. The two pieces of combined buildable land of approximately 32 acres were studied for a layout of an elementary school and middle school campus and is referred to in the study as the northern parcel. The eleven acre, southern parcel was studied for an elementary school only.

**SITE FEATURES**

The Sanner property is currently in agriculture use. The northern parcel is a sloping site with grades ranging from 3 to 30 percent. The flattest areas of this parcel are adjacent to the FEMA 100 year floodplain associated with the Jones Branch Tributary. Steepest areas of the site are found on the Tuscarora Creek school parcel with grades of 30 percent and are associated with a knoll. There is a 66 foot elevation difference across the northern parcel.

Forest is present along the floodplain and boundaries of the site. Much of the forest will be protected by forest easements recorded by The City of Frederick.

The southern parcel is also in agricultural use and is adjacent to the FEMA 100 year floodplain of Jones Branch tributary. It is surrounded on three sides by future forestation easements. Once again the flattest areas of the site are located along the floodplain.

The soils on the northern parcel consist of Penn channery loam (PeC), Penn loam (PaB), and Springwood gravelly loam (SpA and SpB) on the higher elevations of the parcel. The low laying land consists of Rowland silt loam (Rwa), a floodplain soil. Unlike Frederick County, floodplain soils are not regulated in the City of Frederick and can be built upon. A restrictive feature of the Penn soil is the underlay of bedrock. According to the Soil Survey of Frederick County, the bedrock is 20 to 40 inches below the surface of the ground. These rocky soils are found in and around the knoll. Springwood soils have no development limitations. The Rowland soils, the floodplain soil, will have a varied depth to saturated soils.

The 11 acre parcel is comprised of the same Penn and Springwood soils.

There have not been any wetlands investigations provided for this report. The U.S. Fish and Wildlife's National Wetland Inventory shows wetlands along Jones Branch Tributary. The presence of these wetlands will not impact development on either the northern or southern parcel.

## **ZONING**

When annexed into the City of Frederick from Frederick County, the Sanner Farm was zoned R-4, Medium Density Residential. It is comprehensively planned for Institutional with symbols for a proposed elementary school and middle school on the City's Comprehensive Plan. Public and/or private schools are not permitted uses in the R-4 zone and a change to Institutional zoning would have to occur prior to the development review process.

## **ACCESS**

The Sanner Property is surrounded by residential development, a mix of townhomes and single family homes. Some of the neighborhoods, such as Tuscarora Creek immediately adjacent to the site, are not entirely built. Tuscarora Creek, still under construction is planned for 847 homes. As a measure to facilitate better traffic movement, Christopher's Crossing in conformance with the City's Comprehensive Plan, is planned to split the Sanner Farm. This road connection will provide one of the missing pieces of this important urban arterial and provide road frontage for the Sanner Farm. Once this segment of the road is completed, there will be a road connection from Shookstown Road to Opposumtown Pike. The School Board's contribution to the construction of Christopher's Crossing has not been determined. Access points from the planned Christopher's Crossing would provide entrances into the future school site subject to City approval. An existing local road, Spring Run located in the Tuscarora Creek subdivision, currently terminates at the Tuscarora Creek school outlot and would provide another important access point to the future school campus.

The City of Frederick is subdividing a lot for a proposed fire station from the Sanner Farm. The plat of subdivision "Lot 1, Sanner Farm, Proposed Fire Station Lot, shows a 3.02 acre lot fronting on Walter Martz Road. A 25 foot non-exclusive access easement is being created for the fire department's access to proposed Christopher's Crossing across the remaining lands of the Sanner farm. The City Engineer recently spoke to the Fire Department about sharing this easement with the Board of Education in order to provide access for school traffic to and from proposed Christopher's Crossing. The Fire Department officials were not in favor of sharing the access easement as they understandably did not want to mix school buses and fire trucks on a private driveway.

The southern parcel would also access onto Christopher's Crossing with two access points. Access to Poole Jones Road would be difficult due to inadequate site distance.

At this time, the proposed 100 foot right of way for Christopher's Crossing remains an unplatted right of way. The horizontal alignment was set by the City of Frederick and appears to be the best alignment for the road. The vertical alignment has not been designed. The question remains as to which entity designs and constructs the road. If it is to be consistent with the existing Christopher's Crossing, it will be a median split roadway. When designed, the median in the proposed road must be closely examined for the location of breaks where necessary for access points into the Sanner property.

## **EASEMENTS**

A 30 foot County sewer easement, recorded at L.2664 Folio 683 is located along Tuscarora Creek and Jones Branch Tributary. It does not impact the buildable area of the parcels. A title report review would confirm the absence or presence of any other easements. The City of Frederick has proposed Forest Protection easements on the Sanner Farm for the preservation of woods found along the Tuscarora Creek and its tributaries.

## **WATER AND SEWER SERVICE**

The Sanner Property is designated Planned Service (PS) on the Water and Sewer Masterplan map for both water and sewer. The school outlot in the Tuscarora Creek subdivision is W-3/S-3, service within 3 years. A water and sewer amendment application will need to be submitted to the County for a higher service classification for the Sanner Farm before a site plan will be approved for the property. The site development will utilize County sewer and City water.

An 8 inch sewer line is found along Tuscarora Creek and a 12 inch sewer line along Jones Branch Tributary referred to as the Tuscarora Creek Sewer Interceptor. It is not a denied access line and can be utilized for service. The 19 acre site will gravity drain to the sewer line. There is an existing 12 inch water line in Walter Martz Road that would be extended to the site via the right of way for proposed Christopher's Crossing.

Development has been anticipated in utility planning by the City of Frederick for the Sanner Farm. The Sanner Farm was specifically listed as part of the Potomac River Water Supply Agreement signed by the City of Frederick in 2006 with an estimated water demand of 48,000 gallons per day.

When annexed, an analysis of how the site will be served by water and sewer was required.

Despite these studies, all development applications are required to conform to the Frederick City's Adequate Public Facilities Ordinance. The City will examine the water demand and availability. A study of the sewer system will also be required by Frederick County Division of Utilities and Solid Waste Management (DUSWM). Ceresville pumping station capacities have been a concern of DUSWM for some years. A developer of the Sanner Farm will be responsible for contributing or constructing their share of infrastructure improvements as determined by DUSWM.

The southern parcel will have to access the Tuscarora Creek Sewer Interceptor. Water service located in Walter Martz Road would be extended down the future Christopher's Crossing to serve the parcel.

## **FOREST CONSERVATION REQUIREMENTS**

Any development plans for the Sanner Farm will be exempt from Forest Conservation requirements. The City of Frederick completed a worksheet as part of the Combined FSD/Preliminary/Final Forestion Plan for the subdivision of a lot for the Fire Department. In that worksheet, the entire Sanner property, 60.94 acres, comprises the total tract area for the worksheet calculations. This indicates that the requirements have been met for the Sanner Farm with the subdivision plans. According to the City of Frederick, the easement plats may be reviewed for approval at the October Planning Commission meeting.

## **STORMWATER MANAGEMENT REQUIREMENTS**

Stormwater management on site will be designed in conformance with the State of Maryland 2007 Stormwater Guidelines. Emphasis is focused on stormwater quality by implementing environmental site design (ESD) to the maximum extent practicable (MEP). ESDs are small scale, non-structural practices. It includes conserving natural features and drainage patterns, slowing runoff and increasing infiltration. Stormwater quantity measures will be managed by appropriate structural Best Management Practices (BMP) only when necessary. It would be the goal to manage stormwater without the use of a stormwater pond by releasing the water at pre-development rates to Jones Branch Tributary and Tuscarora Creek.

## **CONCEPT PLANS**

Two concept plans were prepared for the Sanner Farm Property using boundaries and uncontrolled topography supplied by the City of Frederick. An elementary school footprint (the new North Frederick Elementary School) was placed on the 11 acre southern parcel and an elementary and middle school on the northern parcel. The middle school utilized the architecture of the Urbana Middle School as its prototype.

It was found that it was not possible to meet the design criteria for the school on the southern parcel. Access in and out of parking lots onto Christopher's Crossing while meeting driveway separation requirements was awkward. Vehicular circulation was further complicated by trying to provide a separate bus drop off and parent drop-off. Access onto Poole Jones Road was not feasible due to sight distance problems. Siting of the building was limited by the solar needs of the LEED certified school prototype used for the study. The proposed forest easements by the City surrounding the site made the layout and grading of the fields difficult. It was determined by HSA that this site was not feasible for an elementary school.

The northern parcel was examined as an integrated campus for an elementary school and middle school. The 19 acres of the Sanner Property was combined with the school outlot in the Tuscarora Creek subdivision creating approximately 32 buildable acres.

It was found that the most effective layout of the schools sited the middle school adjacent to the Tuscarora Creek neighborhood and the elementary school to the tributary's floodplain. Access to the schools is shown from Spring Run and future Christopher's Crossing. On the concept plan, Spring Run, a 50 foot public right of way was terminated in a cul-sac with a private internal road/driveway accessing

into the proposed school site. Two other private driveway accesses were shown from Christopher's Crossing. One acts as a shared entrance to the parking lots of both schools and one as a direct access for buses to the elementary school drop-off area. Both the Middle School and Elementary School have the parent drop off drives separated from the bus drop off areas. The parking lots for both schools are internally connected with private drives so overflow parking could be provided for either school if necessary. The athletic fields are intended to be shared fields with the larger playing fields behind the elementary school.

## **PRELIMINARY GRADING STUDY**

The concept plan's topography indicates extremes in elevation from west to east. The highest elevations are found on the Tuscarora Creek school outlot and the lowest adjacent to the floodplain on the Sanner parcel. There is approximately 66 feet of elevation difference across the site. The knoll located on the Tuscarora Creek school outlot is the highest point, and the preliminary grading study shows a 20 foot cut in order to lower the grade. The finished floor of the school is determined to a great degree by the existing elevation of pavement of Spring Run where it terminates at the outlot's boundary. The excess excavation from the knoll is pushed across the site and serves as fill material where needed. It is important to note that the knoll is comprised of rocky soils. It is an indication that this knoll is formed by rock, thus adding to the construction costs for rock removal. If the Tuscarora Creek school outlot were developed without the Sanner property, a huge amount of waste would have to be removed from the site and make development costly.

A grading study of the concept plan that encompasses both the Tuscarora Creek school outlot and the northern parcel of the Sanner Farm indicates there may be as much as 10, 000 cubic yards of waste or excavation. This excess dirt can however, be used to raise ball fields or be wasted in the open space adjacent to Tuscarora Creek. This would allow the site earthwork to balance.

The concept plan as drawn requires 3 retaining walls. One is located within the middle school parking lot, one at the corner of the middle school ball field and one along the edge of the middle school parking so to avoid penetrating a forest easement with grading. By utilizing the footprint of the Urbana Middle School, the two story wing allows an easier change in grade between the middle school building and the elementary school building and eliminates retaining walls in that area.

## **CONCLUSION**

It is the opinion of Harris, Samaria and Associates, that the northern Sanner parcel combined with the Tuscarora Creek school outlot could support both a middle school and elementary school on one campus. Neither the school outlot or the Sanner Farm subdivision have been platted and recorded. If the Board of Education pursues the northern parcel of the Sanner Farm, the Tuscarora Creek outlot and the Sanner property will require an addition plat to combine the two parcels into one.

The campus would integrate the vehicular circulation and parking needs of both schools. With two driveways into the schools from Christopher's Crossing and an access from Spring Run, buses and cars coming from any direction could enter the site easily. It is important that the Board of Education work closely with the City of Frederick to insure median breaks in the proposed Christopher's Crossing.

Pedestrian circulation between both schools and their athletic fields would also be accommodated. The athletic fields could be sited to support the sharing of facilities.

Whether the middle school or the elementary school is constructed first, a mass grading of the entire 32 campus will have to be undertaken for a balanced earthwork. The construction of a school cannot stand alone without cost increases in construction. The Tuscarora Creek school outlot, if developed independently would require a large amount of excavation to be hauled from the site.

In order to finesse the grading, the concept layout of the site will more than likely be altered in the positions of the buildings, parking and fields. A closer study utilizing controlled topography may result in the elimination of some retaining walls and a tighter cut and fill calculation. Another factor that will affect the final grading of the site is the vertical alignment of proposed Christopher Crossing and the elevations of the road at the proposed access points into the site.

Tasks prior to the submission of a site plan for development of a school site include subdivision of the Sanner Farm and plats adding the Tuscarora Creek school outlot to the northern Sanner parcel. The Sanner Farm must be zoned to Institutional from R-4 before a school for the site will be considered. Water and Sewer reclassification from PS to a higher category and APFO studies for water and sewer adequacy are also required. The Board of Education must also work closely with the City of Frederick in the design of Christopher's Crossing to insure adequate median breaks in the road for access in to the school campus.

## **ATTACHMENTS**

1. Tax Data
2. Annexation Map
3. FEMA Floodplain Map
4. Soils Maps
5. Wetland Map
6. Combined FSD/ Preliminary Forestation Plan
7. Sanner Farm Annexation Memo to BOCC from Eric Soter
8. Concept Plan with Grading
9. Grading Study